An Explorative Survey on Stress among Adolescent Girls

Dr. Anice George Jain[1], Renu G.[2] and Preethy D'Souza[3]

[1]Dean, Manipal College of Nursing, Manipal and Director of Nursing Education, Manipal University, Karnataka, INDIA
anicejain@yahoo.co.in
[2]Lecturer, Maternal & Child Health Department, Sultan Qaboos University, Muscat, OMAN
renug5@hotmail.com
[3]Lecturer, Maternal & Child Health Department, Sultan Qaboos University, Muscat, OMAN
rovand@hotmail.com

ABSTRACT:
This is an exploratory survey conducted among 1648 adolescent girls to assess the stress. All the participants were between 15 years and less than 20 years, studying for nursing or in the pre university without chronic illness. A stress scale developed by Girdano – Danial and Everly George (1979) and a structured self administered questionnaire on personal data were used for the study. The finding showed a large percentage of adolescent population is going through stress. Since the study was conducted between two set of students an independent "t" test was done to find out the difference in means. The $t_{(61)} = 7.31$, $p<0.05$, hence it can be concluded that the stress experienced by the nursing students were significantly higher than that of pre university students. This survey recommends an urgent attention in the management of stress among adolescents.

Key Words: Stress; adolescent; stress scale;

INTRODUCTION

Stress is a universal phenomena experience by people across the life span. Although the stressors and its response are unique to individuals, there are certain stressors common to each developmental stage. Researchers all over the world studied this phenomena but it still remains not fully understood. Human beings are vulnerable to stressors at certain stage of development. One such stage in the life of an individual is the adolescent period.

"I am stressed out" is a phrase that has been echoed by teens down through the ages. The level of stress experienced by teens on a daily basis has been described in lay and professional literature. Adults often underestimate this level of stress and may not always be cognizant of the potential consequences of stress on teens and young adults.

This lack of appreciation of the stress experienced by adolescents may be partially related to a lack of awareness of the sources of stress in teen life, the changing nature of stressors through time, the ever-evolving complexities of adolescent life, and the tendency for adults to minimize their own personal stress during the teen years or compare their teen years to the experiences of others [1].

Physiological development, cognitive differences, pubertal changes, immature coping mechanisms, slower recovery from stressful events, and lack of experience in dealing with stress may intensify the stressful events experienced by adolescents [2].

Adolescence is a period of "Sturm and Drang" or "storm and stress" [3] has been discredited as a simplistic over generalization [4]. There is still concern regarding the extent of the stress experienced by adolescents as a part of the normal development process. The degree to which present day adolescents are exposed to stressors greater than in number and seriousness than earlier generations , and the extent to which they have developed and used coping strategies equal to the stress they endanger.

REVIEW OF THE LITERATURE

The word stress has emerged as a part of current daily vocabulary and is not always well defined as a concept or uniformly understood. Several authorities have defined stress as it relates specifically to teens. According to Goodman et al. (2005[5]), stress refers to a stimulus generating psychosocial and physiologic demands, and requiring action on the part of the individual.

Adolescence can be particularly vulnerable period for life change and stress [6]. In recent years, a number of studies have sought to determine the impact of potentially stressful life events on adolescents [7]).

One outcome of this burgeoning research has been a proliferation of stress measures without systematic examination of their relative efficacy.

A number of studies have indicated a link between stressful life experiences and adolescent health problems[8]. Hotaling, Atwell, and Linsky (1978)[9] found that adolescents with greater life stress scores reported more serious illnesses. In addition, studies

have also discovered a relationship between recurrent pain and the extent of stressful life events experienced by adolescents[10].

The investigation on association between childhood history of headache, adolescent stress and headache syndromes in young adulthood in New Zealand. Members of the longitudinal Dunedin Multidisciplinary Health and Development Study participated in this study. Study members were asked about headache characteristics / symptoms at aged 26 (96% of the living cohort), and historical records were examined to ascertain headache history (younger than 12 years) and the reporting of stressful life events at aged 15 years [11].

Study members with childhood headache were significantly more likely to report adolescent stress than those without headache. High – intensity stress during mid adolescence increased the likelihood of migraine diagnosis. In those with combined head ache (migraine as well as tension – type head ache), this relationship held only for those with a history of head ache. Stress associated with bodily changes during mid adolescence was the only significant predictor of tension – type head ache.

Stress, stressors and coping strategies among middle school adolescents in Los Angeles in 1997 were studied. Fifty four adolescents from a middle school in the Los Angeles area completed two self-report measures that examined their experience of stress and identified the stressors in their environment and the coping strategies they used to deal with these stressors [12].

Gender differences were evident throughout the study, with girls indicating higher levels of stress and boys and girls reporting different behavioral and affective response to stress.

Although the sample as a whole evidenced moderately low levels of stress, school – related stressors were highest in frequency, followed by siblings and fathers. Students used coping strategies very infrequently and with a low frequency of success; they used adaptive coping strategies most often, particularly help seeking, relaxation, distraction, cognitive control and affective release.

Adolescent stress and self esteem in high school students at North Dakota were examined. The purpose of this study was to examine the extent to which there is a relationship between stress and self-esteem. The sample consisted of 2,154 high school students between the ages of 14 & 19. Data was collected using life experience survey and the self-esteem inventory [13].

The findings indicated that as the number of life events increased, the level of self-esteem decreased. The relationship was true for negative events and had no impact on self-esteem.

Social scientists and educators have repeatedly noted the connection between an adolescent's stressful environment, particularly recurrent daily stressors, and resultant behavioral adjustment and academic performance problems[14,15].

Teens were asked to use their own words to define stress. One of the teens described his stress as "a great deal of pain that's inside my body that I can't get out and make me feel bad." Another stated stress was characterized by "worrying, keeping secrets, gray hair, problems, anger, being tense". These definitions of stress led to an exploration of adolescent perceptions on the origins of stress [16].

Survey of various literature indicates the common stressors of adolescence as adult appearance and size, reproductive capacity, internal endocrinological changes, capacity for abstract thinking conformity with peer group, pressure to try new experiences, changing school structure and study format, parental responses to adult size of the adolescence, and their hopes and expectations for future. Stress responses can be behavioral, physiological and affective.

AIM

The aim of the study was to explore the stress among adolescents. Further comparison was made between the stress scores of two sub groups of adolescents which were nursing students and the pre university college students.

RESEARCH METHODOLOGY

An exploratory survey technique was used for the study. The setting for the study was pre university colleges and one nursing education institution in India.

The samples were adolescent girls between the age of 15 years to < 20 years, who were not having any chronic diseases. They were students studying in pre university course or first year nursing course. A probability sampling method of multi – stage cluster sampling technique was used to select the subjects.

The total sample size was 1648. An informed consent was obtained from the parents of adolescent girls. Moreover the research purpose was explained to the adolescents before collecting data.

The data was collected using proforma to obtain background data and stress scale to assess the stress level. A structured self administered questionnaire was used to collect data on personal background. The items included were name and address, age, course of study, year of study, type of family and family economic status. The Proforma also included items related to the number of siblings and position of the subject among the siblings.

The second tool used was a stress scale to assess the stress level. Several standardized stress scales were reviewed; most of the scales were developed to measure the stress in relation to life events. The stress scale developed by Girdano – Daniel and Everly George (1979) [17] was found to be most appropriate for this exploratory survey so it was used. The original scale discusses on the aspects of one's life which are contributing to excessive stress.

Authors categorized stressors into three classes as psycho-social, bio-ecological and personality causes only in the test items. The authors described frustration, overload and deprivation as psychosocial process. They further explained, frustration occurs when a person is blocked from doing what he/ she wants to do, whether it is behavior one wishes to perform or a goal one wishes to attain.

Emotionally a person responds to frustration with feelings of anger and aggression with accompanying nervous and hormonal responses. Overload means a level of stimulation of demands or over – stimulation.

Deprivation is explained as the psycho-physiological stress response caused by boredom or loneliness. The personality causes were included, which was explained as the dynamics of an individual's self perception and characteristics, attitudes and behaviors which may contribute to excessive stress.

The original stress scale contained three exercises measuring stress due to psycho- social causes (measuring frustration, measuring overload, measuring deprivation caused by boredom or loneliness) and three exercises measuring stress due to personality causes (measuring self perception, measuring Type 'A' personality and measuring anxious reactivity personality). Each exercise had 10 items, making the scale a 60 item scale. The scale intended to measure the total stress score only. This was a self administered questionnaire.

The original tool had 60 items and modified tool was used with 55 items. The omissions of the questions were done after the initial try out where the students preferred in question form. The alternate responses are: 'almost always', 'usually', 'rarely' and 'never' which were scored 4,3,2 and 1 respectively for all the items except item numbers 1,10 and 30 to 34; whereas these items were scored in reversed form as 1,2,3 and 4 respectively. The total score which could be obtained for the tool ranged between 55-220. Based on the total score the stress was classified arbitrarily into three levels which were as follows: score 55 to 109: mild stress level; score 110 to 142: moderate stress level and stress core 143 to 220: severe stress level.

The lowest score was 55 (i.e., 55 items x score 1), moderate was 110 (i.e.55 x 2) and high score was calculated as 2.6 x 55, i.e.143, keeping in mild 2.6 as the median score for each item. Similar scoring scheme was given in the original tool. As the tool was modified, it was necessary to establish the reliability of modified tool.

Content validity of the stress scale was established through judgment by six experts, three from nursing, two from psychiatry and one from Educational Psychology. No modifications were suggested by the experts for the scale.

Pre-testing of the stress scale was on twenty nursing students. The method used was test – retest method. This pre-test showed only moderate correlation of 0.676 (p.01) for the stress scale.

Therefore a second pre-testing was planned for the stress scale. Tool was administered on 29 girls and the method used was test- retest method with an interval of one week. The stress scale was found to be reliable with a correlation coefficient of 0.735(r =0.735, p <0.001).

FINDINGS
The analysis and interpretation is done for the background data and also on the stress level. In addition to this comparison between stress scores of pre university students and nursing students was done. The descriptive and inferential statistics used for the analysis.

BACKGROUND DATA
The sample characteristics are described in frequency and percentages.

Table: 1 Age and Course of study of the Adolescent Girls in Frequencies and Percentages:

Variable		Frequency	N= 1648 Percentage
Age	>= 15 - <17	690	41.87
	>= 17 - <19	877	53.21
	>= 19 - <20	81	4.92
Course of Study			
	PUC	1478	89.68
	Post PUC	170	10.32

Stress level of adolescent girls:

Table2: Frequency and percentage of adolescent girls in various levels of stress N=1648

Stress Level	Number	Percentage
Mild	80	4.85
Moderate	1198	72.69
Severe	370	22.45

Out of 1648 adolescent girls, about one half were in the age groups of 17 to 19 years (53.21%) and 41.87percent were in the age group 15-17 years. Only 4.92 percent belonged to age groups of 19 to 20 years. As regard to the course of study 1478 (89.68%) were PUC students selected for the study.

It is further observed that majority of students, that is, 1336 (81.07%) out of 1648 belong to nuclear families; 89.20 percent of the fathers were the earning members;45.20 percent of the families had their earning member in service; and 71.67 percent of families had the total earnings below Rs.4000 per month. Maximum number of the girls (615) was the first born in the family.

The mean stress score was found to be $132.5(\pm 13.91)$. Stress level was divided into three groups like mild (less than 110), moderate (110-142) and severe (22.45 percent) stress level, indicating that large percentage of our adolescent population is going through stress.

Comparison of stress scores of pre university students and nursing students:

In order to find, whether there is any difference in the stress experienced by adolescent girls doing pre university course and those who were doing nursing course, a comparison was made between these two groups in terms of means. As the sample size of nursing students was 33, a sub group of 30 students from the pre-university college were considered for comparison. The mean stress score of first year nursing students (N =33) was 141.55 ($\pm$ 15.35) whereas the mean stress scores of pre - university college students (n=30) was 134.13 ($\pm$ 14.16). This showed a considerable difference in the mean stress scores of both groups. An independent 't' test was done to find out whether the difference in the means were significant and the 't' value was found to be $t_{(61)}$ = 7.13, p<0.05. Hence, it can be concluded that the stress experienced by the nursing students were significantly higher than that of pre – university students.

DISCUSSION

The association between childhood history of headache, adolescent stress and headache syndromes in young adulthood assessed the stress level of adolescent [11]. This was a part of the mental health assessment at aged 15 in the longitudinal study.

The sample consisted of 962 adolescents which were administered the 5 point "feel bad scale". This scale represents the events and the situations that most frequently reported as causing stress. The results showed 87.7% of the sample (n=909) reported mild stress in which study members reported at least one of the items at an intensity rating of 1 or more. Moderate stress, defined as those who had reported at least one of the items at an intensity of 2 or more (n=746; 71.9%) and in the high stress category in which subjects reported at least one of the items at an intensity of 3 or 4 (n=369; 35.6%). In the current study, majority (72.69%) of the sample had moderate stress.

The study findings of De Anda D and associates indicated that the sample which constituted 54 adolescents as a whole experienced a slight degree of stress as measured by Adolescent Stress and Coping

measure scale. The adolescents were asked to indicate the frequency with which they experienced stress during a typical day and week. Because the mean of 2.34 recorded by the students is below the midpoint of 2.5, the frequency of stress appears to be moderate. In response to how often the adolescent experience stress indicated that 59.2% experience stress often. The study revealed that stress is an important aspect of adolescent life and the perceptions vary according to the study settings. As the majority of the study subjects in the present study experience moderate stress, the reasons may be attributed to the setting and specific to that population.

The study on adolescent stress and self esteem in high school students at North Dakota**.** The sample consisted of 2,154 high school students between the ages of 14&19 [13]. The findings revealed that the sample experienced a relatively modest level of stress.

The present study results coincided with that of reviewed literature that adolescent experience stress although the level of it differs across studies. Majority of the researches suggested that adolescents are experiencing mild to moderate level of stress.

CONCLUSION

Most of the adolescent problems in the present century are the results of stress experienced by the adolescents. It is time to help them out. From these survey findings, it can be concluded that stress is a major problem among adolescent population. Most of them experience, either moderate or severe stress, whatever maybe the cause. Further investigation is required to find out the etiology, so that appropriate help can be provided for their stress reduction. Reducing their stress is very essential to safe guard the adolescent population who are the future adults. As adolescent stress has various impacts in their life, it is essential to help adolescents to manage stress appropriately. This survey recommends urgent attention to this problem. It is also concluded that stress experienced by nursing students was significantly higher than that of pre – university students.

REFERENCES

[1]   LaRue D.E., Herrman .J.W. (2008).Adolescent stress through the eyes of high-risk teens. *Pediatric Nursing (PEDIATR NURS),* 34 (5): 375-80.

[2]   Herrman J. (2005). The teen brain as a work in progress: Young,A.G.,Rathge.R., Mullis.R&Mullis.A studied adolescent stress and self esteem in high school students Implications for pediatric nurses. *Pediatric Nursing, 31*(2), 144- 148.

[3]   Hall G.S. (1904). Adolescence: Its psychology and its relations to physiology, anthropology, sociology, sex, crime, religion, and education. *Guilford Surrey, England*: IPC Science and Technology Press.

[4]   Bandura A.& Walters, R. (1963). *Social learning and personality development.* New York: Holt, Rinehart & Winston.

[5]   Goodman,E.,McEwenB.S.,DolanL.M.,Schafer Salkhoff T.,Adler N.E. (2005) Social disadvantage and adolescent stress. Journal of Adolescent Health, 37, 484-492.

[6]   Johnson J. H. (1986) Life events as stressors in childhood and adolescence (Vol. 8) Beverly Hills, CA: Sage Publications.

[7]   Cohen L. T., Burt C. E., Bjorck, J. P. (1987) Life stress and adjustment: Effects of life events experienced by young adolescents and their parents. Developmental Psychology, 23: 583-592.

[8]   DeLongis,A.,Coyne,J.,Dakof,G.,Folkman,R.,Lazarus, R.(1982) Relationship of daily hassles, uplifts, and major life events to health status. *Health Psychology,* 20: 119-136.

[9]   Hotaling,G.T., Atwell,S.G., Linsky,A.S. (1978) Adolescent life change and illness: A comparison of three models. Journal of Youth and Aldolescence, 7, 393-403. Johnson, J. H. (1986) *Life events as stressors in childhood and adolescence*. Newbury Park, CA: Sage Publications.

[10] Greene,J.W.,Walker,L.S.,Hickson,G.,Thompson,J. (1985) Stressful life events and somatic complaints in adolescents. *Pediatrics*, 75: 19-22.

[11] Waldie,E. K .(2000) Child hood headache, stress in adolescence, and primary headache in young adult hood: A longitudinal cohort study

[12] de Anda.D.,Bradley M., Collada C., Dunn L., Kubota J., Hollister V., Miltenberger J., Pulley J., Susskind A., Thompson LA., Wadsworth.T (1997) A study of stress, stressors and coping strategies among middle school adolescents.*Social Work in Education(SOC WORK EDUC*.19(2).87-98.

[13] Young A.G, Rathge R., Mullis R., Mullis (1990) Adolescent stress and self esteem in high school students at North Dakota. *Adolescence25* (98).

[14] Fontana A., Dovidio J. F. (1984) The relationship between stressful life events and school-related performances of type A and type B adolescents. *Journal of Human Stress, 10*: 50-54.

[15] Garrison C., Schoenbach V., Schluchter M., Kaplan B. (1987) Life events in early adolescence. *Journal of the American. Academy of Child and Adolescent Psychiatry, 26*: 865-872.

[16] Chandra A., Batada A. (2006) Exploring stress and coping among urban African- American adolescents: The shifting the lens study. *Preventing Chronic Disease: Public Health Research, Practice, and Policy, 3*(2), 1-10.

[17] Girdano D., Everly, G. (1979) Controlling stress and tension. New Jersey: Pretice Hall Inc.